Center Independent Research & Development: GSFC IRAD

Miniaturization of a Hyperspectral Imaging Spectrometer for Terrestrial Ecosystems Applications (MINI-SPEC)

Completed Technology Project (2015 - 2016)

Project Introduction

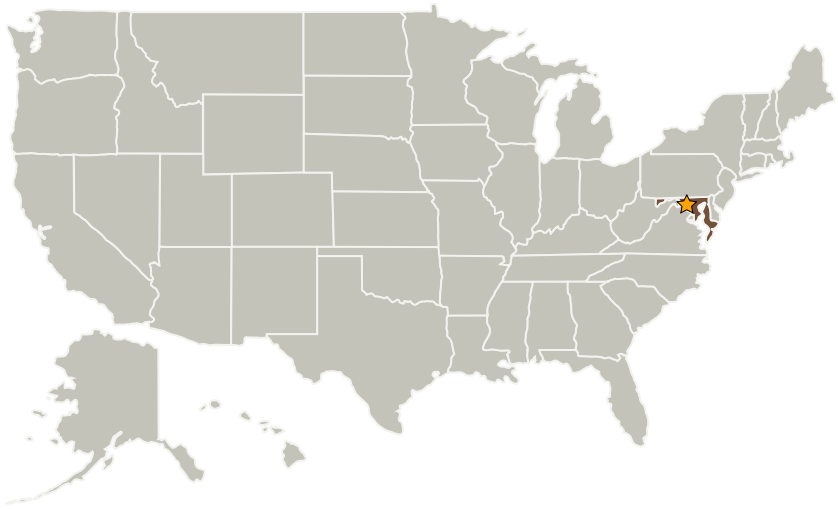
Develop a miniaturized push-broom hyperspectral imaging spectrometer for terrestrial ecosystem applications.

Develop a miniaturized push-broom hyperspectral imaging spectrometer. Limit package size to small-sat platform. Fabricate and demonstrate the most stressing optic in the miniaturized design (i.e. Freeform optic).

Anticipated Benefits

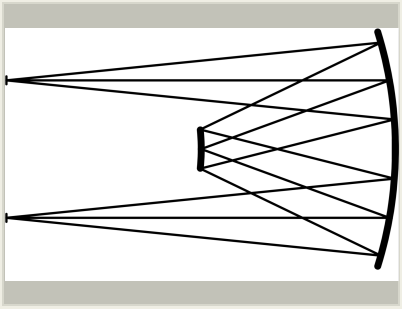
Future Earth observing missions. Also applicable to planetary exploration missions, and large area survey missions for astrophysics.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland

Primary U.S. Work Locations
Maryland



Standard Optical Relay type commonly used for hyper-spectral imaging.

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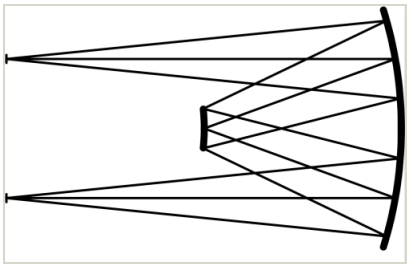
Images



Imaging Spectrometer
Standard Optical Relay type commonly used for hyper-spectral imaging.
(https://techport.nasa.gov/image/19141)

Project Website:

http://aetd.gsfc.nasa.gov/

Organizational Responsibility

Responsible Mission Directorate:

Mission Support Directorate (MSD)

Lead Center / Facility:

Goddard Space Flight Center (GSFC)

Responsible Program:

Center Independent Research & Development: GSFC IRAD

Project Management

Program Manager:

Peter M Hughes

Project Managers:

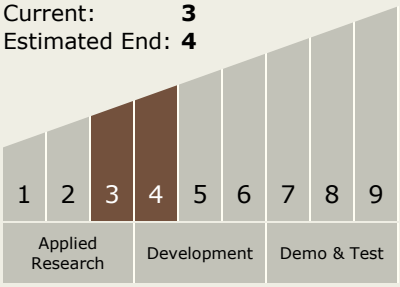
Matt Mcgill
Terence A Doiron

Principal Investigator:

Joseph M Howard

Technology Maturity (TRL)

Start: **3**
Current: **3**
Estimated End: **4**



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Technology Areas

Primary:

- TX08 Sensors and Instruments
  - TX08.1 Remote Sensing Instruments/Sensors
    - TX08.1.3 Optical Components